

MODULE 7

CONSTRUCTION

Project Development Process

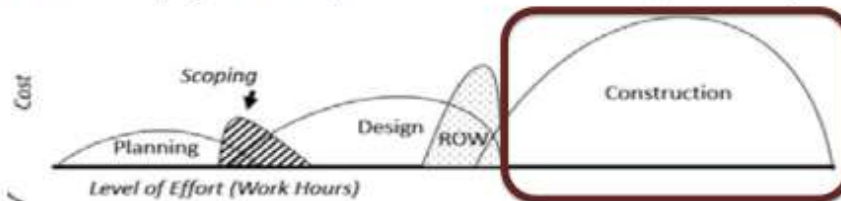


notes

Practical Solutions: Project Development



Exhibit 3-1 Scoping and the Simplified View of the Life of a Transportation Project

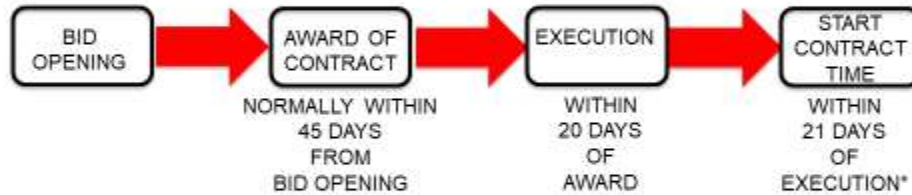


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From Planning to Scoping to Program Management to Design and now Construction. Construction is typically a longer duration phase and where the majority of the cost occur.

Construction is the implementation of the plan. All the pieces come together in the Construction phase. Bridge, Traffic, Roadway, Drainage, Landscaping plans... are utilized to build a complete project with the Contractor and Subcontractors.

Notes



*Unless otherwise approved in writing

- *Follow-up from the Procurement Module.*
 - *Bid Opening*
 - *Award of Contract – normally within 45 Calendar Day (SS 1-03.2)*
 - *Typically completed within a week.*
 - *Execution of Contract - within 20 Calendar Days of Award (SS 1-03.3)*
 - *Bidder signs contract*
 - *Insurance and Bond*
 - *Contract Time Starts – within 21 Calendar Days of Execution of the*

notes



Contract Documents



notes

ORDER OF PRECEDENCE



What item take precedence over all of these?

When discrepancies between various contract documents occur, the Order of Precedence says what will prevail over what.

Standard Plans (#6) has lowest priority.

Standard Specs (#5) takes precedence over Standard Plans.

Amendments (#4), which are revisions to Std Specs, take precedence over Std Specs. The Standard Specs are electronic as of September 1, 2019. There are no more Amendments for Standard Specs.

Contract Plans (#4) (project specific items) take precedence over all the pre-developed information.

Special Provisions (#3) take precedence over Contract Plans & all previous info. **VERY IMPORTANT** to understand this. Probably spend **70%** of time of **Contract Plans**, & only **20%** of time on **Special Provisions**, but **Special Provisions over ride Contract Plans**. Be sure you understand the significance of this. Special provisions include General Special Provisions, Region Special Provisions, and project-specific Special Provisions.

Proposal Form (#2) is Proposal Form that is all filled out by Contractor, with bid prices & extensions, as well as (a) Subcontractor list, (b) Signature page, (c) Declaration of Non-Collusion & (d) Certification for Federal-Aid Contractors.

Takes precedence over Special Provisions, etc. May spend 10% of time on Contract Estimate, but Proposal which is report from Estimate takes precedence over all the previously mentioned items.

Only **Addenda** (#1) plural for Addendum (revisions to contract documents after project goes to Advertisement) takes precedence over all other items.

IS ANYTHING MISSING? We **used** to have Amendments.

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Design to Construction Handoff



- Survey Data
- Design Files and Backup Information
- Agreement, Commitments and Issues
 - Agreements
 - RES Commitments
 - Summary Environmental permit conditions/commitments
 - Contact List
 - Utility Status/Contacts
 - Work Elements in Turnback Agreement
- Assign a Design Lead for Construction Support



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Detailed list can be found at:

<https://www.wsdot.wa.gov/publications/fulltext/ProjectDev/TurnOverPlan.pdf>

notes

Pre-Construction Meeting

- Construction Phase Kick-off
- Attendees may include:
 - Contractor
 - Project Engineer
 - Assist. Project Engineer
 - Office Engineering
 - Inspection Staff
 - Maintenance
 - Office of Equal Opportunities
- Invitee List (Cont.)
 - Utilities
 - Survey
 - Environmental
 - Communications
 - Region Construction Engineer
 - Design Engineers
 - TERO/Tribal Representation
 - Other Federal, State, and Local Agencies

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Preconstruction meeting is arranged as soon as practical after award and the Contractor has organized for the work.

Formal preconstruction meeting is not necessarily required for all contracts. For less complex projects information may be exchange by potentially other methods.

notes

Pre-Construction Meeting

- Typical Agenda Items:
 - Contractor WSDOT Relationship
 - Environmental Commitments
 - Order of Work and Time Schedules
 - Subcontractor and Lower-Tier Subcontractors
 - Utilities, Railroads and other Third Parties
 - Partnering Session
 - Safety and Traffic Control
 - Control of Materials
 - Other Submittals
 - DBE Participation/EEO/Training
 - Wage Rate Administration
 - Forms
 - Submittals needed for work to commence
 - Required Postings
 - Project Closeout

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See WSDOT Construction Manual, pg. 1-47 thru 1-52 for additional information:

notes

Contractor – WSDOT Relations



- Goals:
 - Safe work area
 - No traffic delays beyond contract limitations
 - No Environmental Violations
 - Successful Contractor and Quality Final Product
- Partnering / Good Communication
 - Cooperative approach to solving problems as they arise
 - Timely notice of disputes or contract problems
 - Forward pricing and timely review of change orders
 - Project Specific Partnering Session

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notes

Documentation



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*Construction projects includes lots of documents that are processed:
Documents need to be organized, filed and retained as per the retention policy.
See Construction Manual Chapter 10 for additional information.*

notes

Typical Documents



- Inspector Daily Reports
- Project Engineer's Diaries
- TCS Report
- Pile Driving Records
- Post Tensioning Records
- Contaminated Materials Disposal Bills
- Shop Drawings
- Correspondence
- Scaleman's Daily Report
- Approval of Source of Materials
- Quantity Computations Sheets
- Photographs
- Affidavits of Wages Paid
- Recycled Material Report and Utilization Plan
- Truck Tickets
- QPL
- RAM
- ROM
- HQ Lab Test
- Region Lab Test
- Field Test
- Material Certificate of Compliance
- Sublet Request
- DBE Commercially Useful Function Report
- Training
- Employee Wage Rate Interviews
- Pay Notes
- Pay Estimates
- Certified Payroll
- Daily Force Account Records
- As-Builts
- Submittals
- Request for Information
- Contract Change Orders

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notes

RFI's and Submittals



- Requests for Information (RFI)
 - Clarification on Contract Documents
 - Send to appropriate discipline for review/response
 - Timely and concise response
 - May result in change order
- Submittals (Working Drawings)
 - Processed with appropriate review group
 - Type 1, 2, 2E, 3 and 3E working drawings
 - Failure to complete review in allowable timeframe may entitle the Contractor to compensation for impacts.

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Type 1 – Generally informational in nature and are often used to provide the Project Engineer a description of work to be completed and allow the Project Engineer an opportunity to inspect the work. Does not require a response to the Contractor. Submitted 7 calendar days before Work represented by the submittal begins.

Type 2 – 20 calendar day review

Type 2E – 20 calendar day review, required to be prepared by a Professional Engineer

Type 3 – 30 calendar day review

Type 3E – 30 calendar day review, required to be prepared by a Professional Engineer (SS 1-05.3)

See Figure 1-1 WSDOT Construction Manual for submittal review groups:

<https://www.wsdot.wa.gov/publications/manuals/fulltext/M41-01/Construction.pdf>

Possible responses to submittals include:

- *Approved (only use for Working Drawings that require WSDOT approval)*
- *No exceptions taken*
- *Make corrections noted*
- *Revise and resubmit*
- *Rejected*

notes

Submittals – Initial List



Reference/Standard Specification	Submittal	General-Minimum Time Frame
SS 1-04.5	Protests	Immediately and within 14 calendar days (see SS 1-04.5)
SS 1-05.13	Superintendent designation	Prior to beginning any work
SS 1-05.13(1)	Emergency Contact List	No later than 5 calendar days of execution
SS 1-06.1	Material (QPL/RAM)	Prior to material use
SS 1-06.6	Recycled Material Utilization Plan	Within 30 calendar days of execution
SS 1-07.1	Safety Plan	Prior to beginning work
SP 1-07.1	Lead Health Protection Program	2 weeks prior to lead exposure
SS 1-07.3(1)A	A fire prevention control and countermeasures plan	20 calendar days prior to any work and no later than the date of the pre-con
SP 1-07.5	A work plan for environmentally sensitive areas	15 calendar days prior to work in environmentally sensitive areas
SP 1-07.5	Receipts from the disposal facility for all creosoted timber, creosote piling, and associated debris. The contractor shall obtain documentation indicating that final disposal will comply.	After disposal of material
SP 1-07.5	A written notification before any ground disturbing activities	10 days prior to ground disturbing work
SP 1-07.5(2)	A written notification prior to any in-water work.	5 working days prior to any in-water work within 48 hours of violation
SS 1-07.5(3)	Contractor ECAP Report will be submitted if CSWGP is Violated	7 calendar days prior to submitting notice of termination to Ecology
SS 1-07.5(3)	Notice of Termination upon Physical Completion	within 4 calendar days
SS 1-07.5(3)	All correspondence with Ecology	When a classification and wage rate is needed
SS 1-07.9(1)	Request for Authorization of Additional Classification and Wage Rate	Prior to beginning any work for each apprentice
SS 1-07.9(3)	Written evidence for the apprentices	Within 30 calendar days of execution
SP 1-07.9(3)	Apprentice Utilization Plan	A monthly basis
SP 1-07.9(3)	Statement of Apprentice/Journeyman Participation	No later than 30 days after physical completion
SP 1-07.9(3)	Good Faith Efforts	Prior to first payment for contract work
SS 1-07.9(5)	Copy of an approved "Statement of Intent to Pay Prevailing Wages" State L&I's form number F700-029-000 for Contractor and for each firm covered under RCW 39.12 that provided Work and materials for the Contract	Prior to release of funds retained under RCW 60.28.011
SS 1-07.9(5)	Copy of an approved "Affidavit of Prevailing Wages Paid", State L&I's form number F700-007-000 for Contractor and all subcontractors	Within 10 calendar days of the end of the preceding weekly payroll period for Federal-aid projects
SS 1-07.9(5)	Certified payrolls	Submitted prior to commencing contract, work and shall be resubmitted when modifications to the program occur.
SP 1-07.11	Training Program	No on-site construction activities may commence until the Contracting Agency accepts an SPCC Plan for the project.
SS 1-07.15(1)	SPCC Plan	

Example Initial List of Submittals for a Bridge Replacement Project constructed with the 2016 Standard Specifications. Specification references have been generally updated to reflect the 2020 Standard Specifications. It's a good idea to prepare a list prior to starting construction. Each project is different, review the plans, special provision and specifications for applicable upcoming submittals. Provide the list to the Contractor. This is partnering with contractor, keeping you both on the same page, establish expectations, help to limit surprises and keep work progressing. While the list captures many of the submittals that may be required with the Contract it is not intended to be all inclusive. Some submittals may have been missed and some included that may not be required.

Submittals (Cont.)



SS 1-07.17(1)	Utility Relocation Plans and Details (relocations for Contractor's convenience)	20 calendar days prior to utility work
SS 1-07.18	Insurance Cancellations (The Contractor shall provide written notice to the Engineer of any policy cancellations and provide the Department of Transportation, Contract Payment Section, PO Box 47420, Olympia, WA 98504-7420, by U.S. Mail.	Notice of any policy cancellation within two business days of receipt of cancellation.
SP 1-07.23(1)	Girder Setting Operation Road Closures Proposal	three weeks prior to girder setting work
SP 1-07.23(1)	Notification of any traffic impacts for the week.	By noon Wednesday the week prior with weekly look ahead schedule, except for full lane closures which require a 10 day notification
SS 1-08.1	Requests for Subcontracting Work	The Contractor shall not subcontract Work unless the Engineer approves in writing.
SP 1-08.1	Certification WSDOT Form 420-004 EF & 421-012 EF	Prior to subs beginning any work
SS 1-08.1	Notice of Withheld Payment to a Subcontractor	Within 10 calendar days of prompt payment due date.
SS 1-08.3(2)B	Submit five copies of a Type A Progress Schedule	10 calendar days after the date the Contract is executed, or some other mutually agreed upon submittal time.
SS 1-08.3(2)B	Submit five copies of a Type B Progress Schedule	5 calendar days after the date the Contract is executed - Preliminary Type B Progress Schedule. No later than 30 calendar days after contract is executed - Type B Progress Schedule.
SS 1-08.3(2)D	A weekly look-ahead schedule	By Wednesday noon the week preceding the scheduled work.
SS 1-08.3(3)	Schedule update	Within 15 calendar days of receiving a written request
SS 1-08.5	Protest of Weekly Statement of Working Days	Within 10 calendar days
SS 1-08.8	A request for an extension of time	No later than 10 working days after a delay occurs
SS 1-09.2(1)	Scaleman's Daily Report, Form 422-027	Provided to Engineer Daily
SS 1-09.2(2)	Batching Scales final test results.	Before use of batching and hopper at a new site and then at 6-month intervals
SS 1-09.2(3)	Platform Scales final test results.	Before use at a new site and then at 6-month intervals
SS 1-09.6	Project Labor List	Before Force Account Work (if not received the Engineer will develop a List unilaterally)
SS 1-09.8	Materials on Hand - Invoices and/or written evidence of production costs.	No later than estimate.
SS 1-09.9	Lump Sum Breakdowns	Prior to the first progress payment that includes payment for the Bid Item in question.
SS 1-10.2	TCM/TCS designations	Prior to beginning work
SS 1-10.2(1)B	Daily traffic control diary each day traffic control is performed using WSDOT form 421-040A and 421-040B	No later than the end of the next working day
SS 1-10.2(2)	Designating and adopting traffic control plan or plans from the contract documents or contractor's plan that modifies, supplements or replaces a plan from the contract documents	7 or 20 calendar days prior to work involving traffic control, see SS 1-10.2(2) for details.
SS 1-10.3(3)K	Manufacturer's specifications for the portable temporary traffic control signal	20 calendar days prior to work involving a traffic control signal

Example Initial List of Submittals, continued.

Submittals (Cont..)



Example Initial List of Submittals, continued..

SS 2-01.3(4)	Submit the methods and equipment used in roadside cleanup	Prior to beginning roadside cleanup work
SS 2-02.3(2)A1	Bridge Removal Plan	20 calendar days prior to bridge removal
SS 2-03.3(7)C	Copies of permits and disposals for disposal sites.	7 calendar days prior to work
SS 2-03.3(13)	Any borrow site will need to be measured and approved by the Engineer.	Prior to use of borrow site
SS 2-09.3(3)B	Extra Excavation Plan	7 to 20 calendar days prior to work, see SS 2-09.3(3)B for details.
SS 2-09.3(3)D	Structural shoring plans	20 calendar days prior to structural shoring work
SS 6-01.16(1)	Repair Procedure	7 to 20 calendar days prior to work, see SS 6-01.16(1) for details.
SS 6-02.3(2)A	Concrete Mix Designs	30 calendar days prior to work
SS 6-02.3(6)A2	Cold weather concrete plan. (If required)	20 calendar days prior to work
SS 6-02.3(6)A2	Temperature Data	Within 3 days of following the end of the Cold Weather Protection Period
SS 6-02.3(10)D5	The type of grooving equipment used.	20 calendar days prior to work
SS 6-02.3(11)B1	Bridge deck-curing plan.	14 days prior to pre-concreting conference
SS 6-02.3(11)B2	Alternate curing blanket system.	20 calendar days prior to work
SS 6-02.3(13)A	Strip seal expansion joint.	20 calendar days prior to work
SS 6-02.3(14)C	Written instructions from the manufacturer's pigmented sealer's	7 calendar days prior to work
SS 6-02.3(14)D	Form liners not listed in the current WSDOT QPL	30 calendar days prior to work
SS 6-02.3(14)D	Manufacturer's joint splice instructions.	7 calendar days prior to work
SS 6-02.3(16)	Falsework and formwork plans.	20 calendar days prior to work
SS 6-02.3(17)	Early Concrete Test Cylinder Breaks	Type 2 Working Drawing all test results, proof of equipment calibration, and tester's certification. The Contractor shall not remove forms without the concurrence of the Engineer.
SS 6-02.3(24)	Two informational copies of the supplemental reinforcement bending diagrams.	7 calendar days prior to work
SS 6-02.3(24)A	Reinforcement Field Bending (all other reinforcement not provided for in SS 6-02.3(24)A)	20 days prior to work
SS 6-02.3(24)E	The welding procedure for each type of welded splice that will be used.	20 calendar days prior to work
SS 6-02.3(24)E	The welder qualification and retention records.	20 calendar days prior to work
SS 6-02.3(25)A	Prestressed concrete girders shop drawings.	20 calendar days prior to work
SS 6-02.3(25)B	A copy of the jack and its gauge certified calibration chart.	7 calendar days prior to work
SS 6-02.3(25)D	Hot air curing (if proposed)	20 calendar days prior to work
SS 6-02.3(25)E	Core hole patching procedure. (if required)	20 calendar days prior to work
SS 6-02.3(25)F	Release of prestressing reinforcement prior to minimum concrete compressive strength	20 calendar days prior to work
SS 6-02.3(25)J	Horizontal Alignment Checks	7 calendar days prior to shipment and after erection
SS 6-02.3(25)J	Girders not meeting horizontal tolerance for shipment check	20 calendar days prior to shipment
SS 6-02.3(25)J	Girders Horizontal Corrective Action	20 calendar days prior to work
SS 6-02.3(25)K	Vertical Deflection Checks	7 calendar days prior to work
SS 6-02.3(25)K	Girders not meeting vertical tolerance for shipment check	20 calendar days prior to shipment
SS 6-02.3(25)K	Girders Vertical Corrective Action	20 calendar days prior to work

Submittals (Cont...)



SS 6-02.3(25)I.1	Girder lateral stability and concrete stresses during lifting, storage, shipping and erection	20 calendar days prior to work
SS 6-19.3(2)	Shaft Construction Experience and Shaft Installation Narrative	20 calendar days prior to work
SS 6-19.3(2)	Shaft Slurry Technical Assistance and Nondestructive QA Testing Personnel	7 calendar days prior to work
SS 6-19.3(3)B4	Temporary Telescoping Shaft Casing (if proposed)	20 calendar days prior to work
SS 6-19.3(3)H	If cast shoring diameter is used other than the plan, then a revised design shall be submitted.	20 calendar days prior to work
SS 6-19.3(4)C	Synthetic slurry is used, written record of all additives and concentrations of the additives in the synthetic slurry	Submitted as a Type 1 Working Drawing once the slurry system has been established in the first drilled shaft on the project
SS 6-19.3(7)H	Uniform yield form.	Within 24 hours of completing the concrete placement in the shaft.
SS 6-19.3(8)C	The requirements for leaving temporary casing in place	20 calendar days prior to work
SS 6-19.3(9)D	Results and analysis of the nondestructive QA testing for each shaft tested.	Within 3 days of testing
SS 6-19.3(9)F	Contractor's Investigation and Remedial Action Plan (if shaft determined to be unacceptable)	Submitted as a Type 2 Working Drawing
SS 6-19.3(9)F	Revision to placement of concrete under slurry (if required)	Written approval required prior to proceeding with revision
SS 6-19.3(9)H	Coring method and equipment (if required)	Submitted as a Type 2 Working Drawing
SS 8-01.3(1)A	TESC plan	20 calendar days prior to work
SS 8-01.3(1)B	ESC lead for contract	At the Precon and in the TESC plan
SS 8-01.3(1)B	Erosion and Sediment Control Site Inspection Report	No later than the end of the next working day following the inspection.
SP 8-01.3(1)C1	Dewatering plan.	10 days prior to work
SS 8-01.3(1)C3	Shaft Drilling Slurry Wastewater Plan	20 calendar days prior to work
SS 8-01.3(1)C4	The method of performing the management of off-site water.	20 calendar days prior to work
SS 8-02.3(2)A	Roadside Work Plan.	20 calendar days prior to work
SP 8-02.3(2)B	Weed and Pest Control Plan.	20 calendar days prior to work
SS 8-02.3(2)C	Plant Establishment Plan.	20 calendar days prior to work
SS 8-10.3	The manufacturer's flexible guidepost recommended installation procedures	7 calendar days prior to work
SS 8-10.3	Curing compound removal method	20 calendar days prior to work
SS 8-11.3(1)G	Rail punching, fittings, and assemblies plans and shop drawings.	20 calendar days prior to work
SP 9-14.1(3)	Topsoil Type C test results from an independent, accredited laboratory.	6 months prior to proposed application
SP 9-14.2	Seed test results.	30 calendar days prior to work
SP 9-14.4(8)	A 0.5 cubic foot physical sample of compost.	7 calendar days prior to work
SP 9-14.6(2)	Documentation verifying nursery of origin, transplant, and potting dates.	Prior to plant material approval

Example Initial List of Submittals, continued...

Contract Administration

- Progress Estimates
- Paynotes
- Force Account
- Prompt Pay
- Sublet Request
- Statement of Intent to Pay Prevailing Wages
- Certified Payrolls
- Apprentice Utilization
- On-the-Job Training (Training)
- Weekly Statement of Working Days (WSWD)

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A few of the items that are common for Contract Administration:

Progress Estimates are made for progress completed either through the 5th or the 20th of each month. Normally the 5th for odd numbered contracts and the 20th for even numbered contracts. Payment is made based on **paynotes** completed by inspectors.

Force Account - When it is difficult to provide adequate measurement or to estimate the cost for certain items of work, force account may be used in order to pay the Contractor for performing the work. Some contract items may be set up to be paid by force account. Some change orders may require payment by force account. Force account is payment based on Labor, Materials and Equipment with the appropriate markups applied.

Prompt Pay – Agency to Contractor within 30 days after receipt of the work., Contractor to Subcontractors within 10 calendar days of payment from Agency.

Sublet Request – Request from the Contractor to the Agency to subcontract work. Sublet requests must be approved prior to a subcontractor starting work.

Statement of Intent to Pay Prevailing Wages - No payment made for the Work Performed until an approved copy of the statement has been submitted.

Certified Payrolls - Certified Payrolls shall be submitted by the Contractor to this office for the Contractor and all Subcontractors or Lower Tier Subcontractors. If these payrolls are not supplied within ten calendar days of the end of the preceding weekly payroll period, any or all payments will be withheld until compliance is achieved.

Apprentice Utilization – 15% on contracts with estimated cost of \$3 million or greater. Only apprentices enrolled in an apprenticeship program approved by the Washington State Apprenticeship Council may be counted toward attainment of the apprentice utilization requirement.

On-the-Job Training – Training hours determined by HQ OEO. Payment per special provisions.

Weekly Statement of Working Days - Report details the number of workable/unworkable days charged to a project, the reason a day is charged as unworkable, daily weather codes, the current status of contract days, and a summary of the week's construction activity.

notes

Disadvantaged Business Enterprise (DBE)

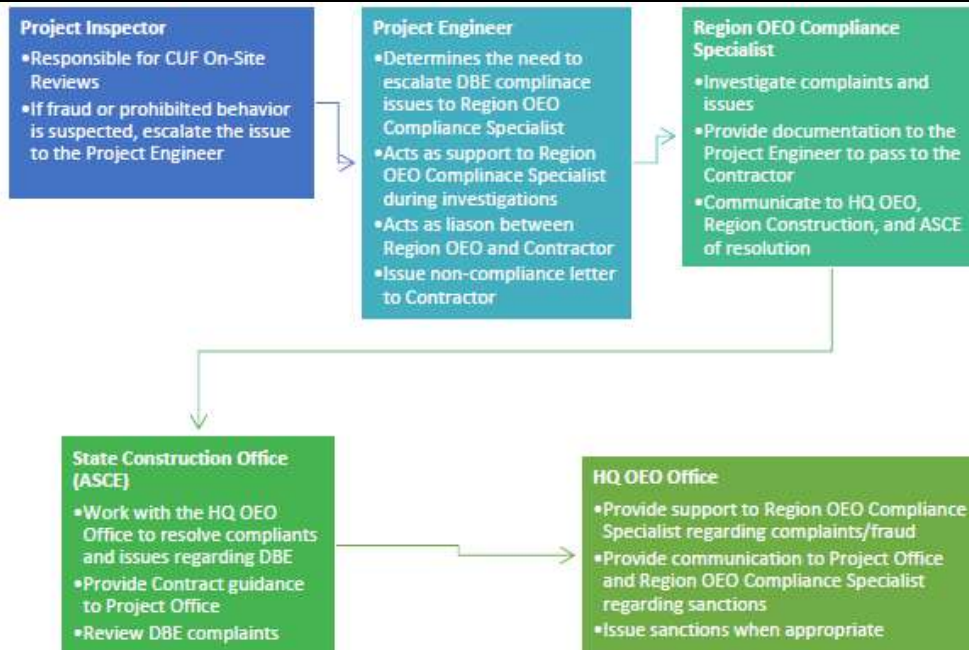
- UDBE Condition of Award (COA) – Federally Funded Contracts
 - Changes to COA UDBE Subcontractors' scope or commitment amounts must be made through a Change Order executed by the State Construction Office.
- Commercially Useful Function (CUF) On-Site Review
 - Project Inspector completes CUF On-Site review
 - All DBE's on the project require a CUF report at least once per calendar year.
 - If fraud or prohibited behavior is suspected the issue is escalated.

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- **UDBE - Underutilized Disadvantaged Business Enterprise**
- **DBE - Disadvantaged Business Enterprise**
- CUF reports completed for each DBE on the project each calendar year for multi-year projects. Additional reviews may be needed when the DBE work changes.
- FHWA Tips on Evaluating Commercially Useful Function:
<https://www.fhwa.dot.gov/federal-aidessentials/commusefunction.pdf>
- See WSDOT Construction Manual for additional information (SS 1-07.11)
- <https://www.wsdot.wa.gov/publications/fulltext/forms/272-052.PDF>

notes



Inspection



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- *Project Inspectors assist the Engineer in inspection of work and materials in meeting the Contract requirements.*
- *Inspectors have the authority to reject defective material and suspend work that is being done improperly.*
- *Inspectors are not authorized to accept work. (SS 1-05.2)*
- *Work to resolve issues at the lowest possible level.*
- *Communication with the contractor and the project office is essential.*
- *One of the critical pieces of documentation that an inspector completes is the Inspection Daily Reports (IDR).*

notes

Materials



- **Control of Materials**
- *The Engineer's approval of all materials prior to their use. Contractor is encouraged to make these requests as early as possible. All materials accepted on the basis of a manufacturer's Certificate of Compliance must have an acceptable certification prior to use per 1-06.3.*
- *Standard Specification 1-06.6 Recycled Materials states: "The Contractor shall make their best effort to utilize recycled materials in the construction of the project; the use of recycled concrete aggregate as specified in Section 1-06.6(1)A is a requirement of the Contract. The Contractor shall submit a Recycled Material Utilization Plan as a Type 1 Working Drawing within 30 calendar days after the Contract is executed."*
- *All Fabrication Inspected items must be stamped and approved prior to use.*
- *In order to avoid deferred progress payments for portions of work completed, all necessary documentation for approval and acceptance of materials, including any required certifications, must be received and accepted prior to their use.*
- **Foreign Made Materials**
- *For Federal Aid Contracts, the Contractor may utilize minor amounts of foreign steel and iron in this project provided the cost of the foreign material used does not exceed one-tenth of one percent of the total contract cost or \$2,500.00, whichever is greater. A certification of materials origin will be required for any items comprised of, or containing, steel or iron construction materials prior to such items being incorporated into the permanent work. The Contractor shall provide the completed and signed Certification of Materials Origin (CMO) to the Project Engineer prior to such items being incorporated into the permanent work.*

notes

Materials Testing



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- *Field and Lab Testing must be completed as required for the contract.*

notes



- Overview of WSDOT Materials Lab.
<https://www.youtube.com/watch?v=MXWO74YDLqI>

notes

Site Visit

- Coordinate with Construction Office
- Safety
 - Pre-activity Safety Plan
 - Personal Protective Equipment (PPE)
 - Training
 - Parking



- *Keep in contact with the Construction Office for site visit(s) during Construction.*
- *Safety is number one priority!*

notes

Environmental



- Inspection of Erosions and Sediment Control Measures
- Cultural Resources
- Hazardous Materials
- Compliance Binder/ Notebook
- Certified Erosion & Sediment Control Lead
- Mark Clearing and Sensitive Areas
- Temporary Stream Diversion Plan

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notes

Communications



- Weekly Construction Updates
- Press Release
- New Media
- Public Meeting
- One-on-One Meetings



- *Communications continues throughout the project.*
- *Get on a distribution list for project updates!*

notes

Utilities

- Relocations may occur prior or with Construction
- Coordination throughout Construction
- Utility delays can result in project delays



- *Call before you dig:*
<http://www.callbeforeyoudig.org/washington/>

notes

Site Access

- Traffic Staging
- Traffic Control
- Laydown Area
- Parking
- Equipment
- Deliveries



notes

Contract Change Orders

- Typical Change Order Flow
 - Need for change arises
 - Options are evaluated
 - Conceptual Change Order Approvals Obtained
 - Negotiate Cost and Time Impacts with Contractor
 - Finalize Change Order with Approvals
 - Contractor
 - PE
 - Region
 - HQ
 - Others as Required (FHWA, Surety, Local Agency, etc.)



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“You can use an eraser on the drafting table or a sledge hammer on the construction site.” Frank Lloyd Wright

WSDOT reserves the right, under Standard Specifications 1-04.4, to make changes to the work, work methods, working days, or quantities, as necessary to satisfactorily complete the project as originally intended.

“Change order work may impact the design criteria used to develop the project. The Project Engineer must be alert to this, and ensure that the Design Documentation Package is revised to reflect any such changes. Changes to the design may also require reevaluation of environmental processes (NEPA/SEPA), as well as permit modifications. The Project Engineer must contact the Region Project Development staff and Environmental Permit Coordinators to obtain approval for the change, and for guidance in documenting and incorporating the change into the Design Documentation Package.”
WSDOT Construction Manual pg. 1-23

It’s important for Contract Specifications to include; Description, Materials, Construction Requirements, Measurement, Payment. Change orders need to address these items as well as appropriate.

Change orders over \$500,000 are posted:

<https://www.wsdot.wa.gov/Business/Construction/ConstructionChangeOrders.htm>

Resources:

Change order process guide -

<https://www.wsdot.wa.gov/sites/default/files/2020/02/10/Construction-ChangeOrders-ProcessGuide.pdf>

Change order checklist - <https://www.wsdot.wa.gov/publications/fulltext/forms/422-003.PDF>

Closeout

- Substantial Completion
- Physical Completion
- Contract Completion

notes

Closeout

- Substantial Completion
 - Full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint,
 - All the initial plantings are completed
 - Only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract

notes

Closeout

- Physical Completion
 - Day all of the Work is physically completed on the project.
 - Documentation may still need to be completed.
 - Address Payment Issues
 - Payroll Deficiencies
 - Address Overruns/Underruns
 - Address Liquidated Damages or Time Extensions
 - Material Deficiencies
 - Record of Materials
 - Finalize Change Orders
 - Final Payment
 - Final Inspection

Final Inspection – Include Maintenance, Environmental, Traffic and other project development staff and stakeholders as appropriate. Schedule final inspection prior to the Contractor demobilizing from the site so items can be addressed. Inspections with the Final Inspection team prior substantial completion is a good idea to minimize items that will come up in final inspection.

notes

Closeout

- Contract Completion
 - Day all the Work specified in the Contract is completed and all the obligations of the Contractor under the Contract are fulfilled by the Contractor.
 - All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.
 - Prime Contractor's Performance Report Completed

notes

Lessons Learned

- Continuous Improvement
 - Feedback on things that worked well
 - Items for improvement
 - Potentially with Contractor
 - Soon after construction



- *Possible Agenda Topics*
 - *Project Management and Staffing*
 - *Contracts and Project Staff Experience*
 - *Materials and Procurement Issues*
 - *Technical Issues*
 - *Schedule*
 - *Change Orders*
 - *Design and Installation Issues*
 - *Plan, Specifications, and Estimate Issues*
 - *Contractor Difficulties*
 - *Project Closeout*

notes

notes